



OIEP

## RAW SEQUENCE LISTING

DATE: 02/08/2002

PATENT APPLICATION: US/09/998,425

TIME: 11:57:10

Input Set : N:\Crf3\RULE60\09998425.raw

Output Set: N:\CRF3\02082002\I998425.raw

1 <110> APPLICANT: Bartel, Paul L.  
 2 Tavigian, Sean V.  
 3 Myriad Genetics, Inc.  
 4 <120> TITLE OF INVENTION: MMSC1 - An MMAC1 Interacting Protein  
 5 <130> FILE REFERENCE: MMSC1 Gene  
 6 <140> CURRENT APPLICATION NUMBER: US/09/998,425  
 7 <141> CURRENT FILING DATE: 2001-12-03  
 8 <150> PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 09/233,086  
 W--> 9 <151> PRIOR FILING DATE: EARLIER FILING DATE: 1999-01-19  
 10 <150> PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/071,861  
 W--> 11 <151> PRIOR FILING DATE: EARLIER FILING DATE: 1998-01-20  
 12 <160> NUMBER OF SEQ ID NOS: 65  
 13 <170> SOFTWARE: PatentIn Ver. 2.0  
 15 <210> SEQ ID NO: 1  
 16 <211> LENGTH: 4  
 17 <212> TYPE: PRT  
 18 <213> ORGANISM: Artificial Sequence  
 19 <220> FEATURE:  
 20 <223> OTHER INFORMATION: Description of Artificial Sequence:PDZ Consensus  
 21 Domain  
 22 <220> FEATURE:  
 23 <221> NAME/KEY: PEPTIDE  
 24 <222> LOCATION: (2)..(4)  
 25 <223> OTHER INFORMATION: Xaa at residue 2 may be Ser or Thr; Xaa at residue  
 26 3 may be any amino acid; Xaa at residue 4 may be  
 27 Val or Ile.  
 28 <400> SEQUENCE: 1  
 W--> 29 Glu Xaa Xaa Xaa  
 30 1  
 32 <210> SEQ ID NO: 2  
 33 <211> LENGTH: 5836  
 34 <212> TYPE: DNA  
 35 <213> ORGANISM: Homo sapiens  
 36 <220> FEATURE:  
 37 <221> NAME/KEY: CDS  
 38 <222> LOCATION: (115)..(5757)  
 39 <400> SEQUENCE: 2  
 40 ctcacttccg cccaggtgag gcagggccga caccgagccc gcccgaccgg ggctcccacc 60  
 41 tgctcctcca gcgcaccagg tgtctttaag agtgattgaa gagaataatt caaa atg 117  
 42 Met  
 43 1  
 44 cct gaa aat cct gct aca gat aaa ctg cag gtg ctg cag gta ctt gat 165  
 45 Pro Glu Asn Pro Ala Thr Asp Lys Leu Gln Val Leu Gln Val Leu Asp

ENTERED

DATE: 02/08/2002

TIME: 11:57:10

Input Set : N:\Crf3\RULE60\09998425.raw

Output Set: N:\CRF3\02082002\I998425.raw

46	5					10					15							
47	cgc	ctg	aaa	atg	aaa	ttg	cag	gag	aag	ggt	gac	acg	tcg	cag	aat	gag	213	
48	Arg	Leu	Lys	Met	Lys	Leu	Gln	Glu	Lys	Gly	Asp	Thr	Ser	Gln	Asn	Glu		
49	20					25					30							
50	aag	tta	tct	atg	ttt	tat	gag	aca	cta	aag	agt	cct	ctc	ttc	aac	cag	261	
51	Lys	Leu	Ser	Met	Phe	Tyr	Glu	Thr	Leu	Lys	Ser	Pro	Leu	Phe	Asn	Gln		
52	35					40					45							
53	ata	ctc	aca	ctt	cag	cag	tcc	atc	aag	caa	ctg	aag	ggt	caa	ctc	aac	309	
54	Ile	Leu	Thr	Leu	Gln	Gln	Ser	Ile	Lys	Gln	Leu	Lys	Gly	Gln	Leu	Asn		
55	50					55					60					65		
56	cat	ata	ccc	tca	gat	tgt	tca	gcc	aac	ttt	gat	ttt	tct	agg	aaa	ggt	357	
57	His	Ile	Pro	Ser	Asp	Cys	Ser	Ala	Asn	Phe	Asp	Phe	Ser	Arg	Lys	Gly		
58	70					75					80							
59	ttg	tta	gtg	ttc	aca	gat	ggt	tcc	att	act	aat	gga	aat	gtc	cac	agg	405	
60	Leu	Leu	Val	Phe	Thr	Asp	Gly	Ser	Ile	Thr	Asn	Gly	Asn	Val	His	Arg		
61	85					90					95							
62	ccc	tct	aat	aac	tcg	act	gta	tct	ggg	tta	ttt	ccg	tgg	acc	ccg	aag	453	
63	Pro	Ser	Asn	Asn	Ser	Thr	Val	Ser	Gly	Leu	Phe	Pro	Trp	Thr	Pro	Lys		
64	100					105					110							
65	ttg	gga	aat	gaa	gac	ttt	aac	tca	gtc	att	caa	cag	atg	gct	cag	ggc	501	
66	Leu	Gly	Asn	Glu	Asp	Phe	Asn	Ser	Val	Ile	Gln	Gln	Met	Ala	Gln	Gly		
67	115					120					125							
68	cgg	caa	att	gaa	tat	ata	gat	ata	gaa	cgg	cct	tca	act	gga	ggc	ctt	549	
69	Arg	Gln	Ile	Glu	Tyr	Ile	Asp	Ile	Glu	Arg	Pro	Ser	Thr	Gly	Gly	Leu		
70	130					135					140					145		
71	gga	ttc	agt	gtg	gtg	gcc	ctc	aga	agt	caa	aat	ctc	gga	aaa	gtt	gat	597	
72	Gly	Phe	Ser	Val	Val	Ala	Leu	Arg	Ser	Gln	Asn	Leu	Gly	Lys	Val	Asp		
73	150					155					160							
74	atc	ttc	gtg	aag	gat	gtc	cag	cca	ggg	agt	gta	gca	gac	agg	gat	caa	645	
75	Ile	Phe	Val	Lys	Asp	Val	Gln	Pro	Gly	Ser	Val	Ala	Asp	Arg	Asp	Gln		
76	165					170					175							
77	aga	tta	aag	gaa	aat	gat	caa	ata	ttg	gcc	att	aat	cac	acg	cca	ttg	693	
78	Arg	Leu	Lys	Glu	Asn	Asp	Gln	Ile	Leu	Ala	Ile	Asn	His	Thr	Pro	Leu		
79	180					185					190							
80	gat	cag	aac	att	tcc	cat	cag	caa	gca	att	gca	tta	tta	caa	caa	acc	741	
81	Asp	Gln	Asn	Ile	Ser	His	Gln	Gln	Ala	Ile	Ala	Leu	Leu	Gln	Gln	Thr		
82	195					200					205							
83	act	gga	tct	ttg	aga	ctg	att	gtg	gcc	agg	gaa	cca	gtc	cac	aca	aaa	789	
84	Thr	Gly	Ser	Leu	Arg	Leu	Ile	Val	Ala	Arg	Glu	Pro	Val	His	Thr	Lys		
85	210					215					220					225		
86	agc	agt	act	tct	agc	agc	cta	aat	gat	aca	act	ctg	cct	gaa	aca	gtt	837	
87	Ser	Ser	Thr	Ser	Ser	Ser	Leu	Asn	Asp	Thr	Thr	Leu	Pro	Glu	Thr	Val		
88	230					235					240							
89	tgt	tgg	ggc	cat	gtt	gaa	gag	gtt										

## RAW SEQUENCE LISTING

DATE: 02/08/2002

PATENT APPLICATION: US/09/998,425

TIME: 11:57:10

Input Set : N:\Cr3\RULE60\09998425.raw

Output Set: N:\CRF3\02082002\I998425.raw

```

95  act ata gtt cct gga gga tta gca gat cga gat gga aga ctc cag aca 981
96  Thr Ile Val Pro Gly Gly Leu Ala Asp Arg Asp Gly Arg Leu Gln Thr
97      275                      280                      285
98  ggg gac cac atc ttg aag att ggt ggc aca aac gtg cag gga atg acc 1029
99  Gly Asp His Ile Leu Lys Ile Gly Gly Thr Asn Val Gln Gly Met Thr
100      290                      295                      300                      305
101  agt gag caa gtt gca caa gtt cta agg aac tgt ggg aat tca gtc agg 1077
102  Ser Glu Gln Val Ala Gln Val Leu Arg Asn Cys Gly Asn Ser Val Arg
103      310                      315                      320
104  atg ctc gtt gct aga gat cca gct ggt gac att tca gtc acc ccc cct 1125
105  Met Leu Val Ala Arg Asp Pro Ala Gly Asp Ile Ser Val Thr Pro Pro
106      325                      330                      335
107  gcc cct gca gcc tta cct gtt gcc ctg cct act gta gcc agc aag ggc 1173
108  Ala Pro Ala Ala Leu Pro Val Ala Leu Pro Thr Val Ala Ser Lys Gly
109      340                      345                      350
110  cct ggt tct gac agt tct ctt ttt gaa act tat aat gtt gag ctt gtg 1221
111  Pro Gly Ser Asp Ser Ser Leu Phe Glu Thr Tyr Asn Val Glu Leu Val
112      355                      360                      365
113  aga aaa gat ggg cag agt ctt gga att aga att gtt ggc tat gtt gga 1269
114  Arg Lys Asp Gly Gln Ser Leu Gly Ile Arg Ile Val Gly Tyr Val Gly
115      370                      375                      380                      385
116  aca tct cat aca ggg gaa gct tca ggg att tat gtg aaa agt gta ata 1317
117  Thr Ser His Thr Gly Glu Ala Ser Gly Ile Tyr Val Lys Ser Val Ile
118      390                      395                      400
119  cct ggc agt gct gcg tac cac aat ggc cac att caa gtg aat gac aaa 1365
120  Pro Gly Ser Ala Ala Tyr His Asn Gly His Ile Gln Val Asn Asp Lys
121      405                      410                      415
122  ata gtt gct gtc gat ggc gtg aac att cag ggt ttt gcc aac cat gat 1413
123  Ile Val Ala Val Asp Gly Val Asn Ile Gln Gly Phe Ala Asn His Asp
124      420                      425                      430
125  gtt gtt gaa gta tta cga aat gca ggg cag gtg gta cac cta acc cta 1461
126  Val Val Glu Val Leu Arg Asn Ala Gly Gln Val Val His Leu Thr Leu
127      435                      440                      445
128  gtt cga agg aag aca tcc tca tct act tct cca ctt gaa cca cct tca 1509
129  Val Arg Arg Lys Thr Ser Ser Ser Thr Ser Pro Leu Glu Pro Pro Ser
130      450                      455                      460                      465
131  gac aga gga act gtt gta gaa cca ctg aaa cca cca gct ctc ttt cta 1557
132  Asp Arg Gly Thr Val Val Glu Pro Leu Lys Pro Pro Ala Leu Phe Leu
133      470                      475                      480
134  act gga gca gtg gaa act gaa act aat gtg gat ggt gaa gat gag gaa 1605
135  Thr Gly Ala Val Glu Thr Glu Thr Asn Val Asp Gly Glu Asp Glu Glu
136      485                      490                      495
137  att aaa gaa aga att gat act tta aaa aat gac aac ata caa gcc tta 1653
138  Ile Lys Glu Arg Ile Asp Thr Leu Lys Asn Asp Asn Ile Gln Ala Leu
139      500                      505                      510
140  gaa aaa ttg gaa aaa gtc cca gac tct cca gaa aat gag ctg aaa tcc 1701
141  Glu Lys Leu Glu Lys Val Pro Asp Ser Pro Glu Asn Glu Leu Lys Ser
142      515                      520                      525
143  aga tgg gaa aac ctg ttg ggt cct gat tat gaa gta atg gtt gct act 1749

```

## RAW SEQUENCE LISTING

DATE: 02/08/2002

PATENT APPLICATION: US/09/998,425

TIME: 11:57:10

Input Set : N:\Crf3\RULE60\09998425.raw

Output Set: N:\CRF3\02082002\I998425.raw

144	Arg	Trp	Glu	Asn	Leu	Leu	Gly	Pro	Asp	Tyr	Glu	Val	Met	Val	Ala	Thr	
145	530					535					540					545	
146	ttg	gac	aca	cag	att	gca	gat	gat	gct	gag	tta	cag	aaa	tat	tca	aag	1797
147	Leu	Asp	Thr	Gln	Ile	Ala	Asp	Asp	Ala	Glu	Leu	Gln	Lys	Tyr	Ser	Lys	
148				550						555						560	
149	ctg	ctg	cct	att	cac	act	ctg	agg	ctt	ggt	gtg	gaa	gtg	gat	tcc	ttt	1845
150	Leu	Leu	Pro	Ile	His	Thr	Leu	Arg	Leu	Gly	Val	Glu	Val	Asp	Ser	Phe	
151				565						570						575	
152	gat	ggg	cac	cat	tat	att	tct	tca	att	gtt	tct	ggt	ggt	cct	gtt	gat	1893
153	Asp	Gly	His	His	Tyr	Ile	Ser	Ser	Ile	Val	Ser	Gly	Gly	Pro	Val	Asp	
154			580					585					590				
155	aca	ttg	ggt	ctc	cta	cag	cca	gaa	gat	gag	ctg	ctt	gag	gtc	aat	ggc	1941
156	Thr	Leu	Gly	Leu	Leu	Gln	Pro	Glu	Asp	Glu	Leu	Leu	Glu	Val	Asn	Gly	
157			595					600					605				
158	atg	cag	ctt	tat	gga	aaa	tct	cgc	cga	gaa	gca	gtc	tcc	ttt	ctt	aaa	1989
159	Met	Gln	Leu	Tyr	Gly	Lys	Ser	Arg	Arg	Glu	Ala	Val	Ser	Phe	Leu	Lys	
160						615						620				625	
161	gaa	gtg	cca	ccc	cct	ttt	act	ttg	gtt	tgc	tgt	cgg	agg	ttg	ttt	gat	2037
162	Glu	Val	Pro	Pro	Pro	Phe	Thr	Leu	Val	Cys	Cys	Arg	Arg	Leu	Phe	Asp	
163						630						635				640	
164	gat	gaa	gct	tct	gta	gat	gaa	cca	agg	cgc	act	gaa	acc	tct	ctt	cct	2085
165	Asp	Glu	Ala	Ser	Val	Asp	Glu	Pro	Arg	Thr	Glu	Thr	Ser	Leu	Pro		
166				645						650						655	
167	gag	aca	gag	gtt	gac	cac	aat	atg	gat	gtc	aat	act	gaa	gaa	gat	gat	2133
168	Glu	Thr	Glu	Val	Asp	His	Asn	Met	Asp	Val	Asn	Thr	Glu	Glu	Asp	Asp	
169				660						665				670			
170	gat	ggg	gaa	tta	gca	ctg	tgg	tcc	cct	gaa	gtc	aag	att	gtt	gaa	cta	2181
171	Asp	Gly	Glu	Leu	Ala	Leu	Trp	Ser	Pro	Glu	Val	Lys	Ile	Val	Glu	Leu	
172				675						680				685			
173	gta	aaa	gat	tgt	aaa	ggt	ttg	gga	ttc	agc	att	ttg	gat	tac	cag	gac	2229
174	Val	Lys	Asp	Cys	Lys	Gly	Leu	Gly	Phe	Ser	Ile	Leu	Asp	Tyr	Gln	Asp	
175						695						700				705	
176	cct	tta	gat	cct	aca	aga	tca	gtg	att	gtg	atc	cgc	tcc	ctg	gta	gca	2277
177	Pro	Leu	Asp	Pro	Thr	Arg	Ser	Val	Ile	Val	Ile	Arg	Ser	Leu	Val	Ala	
178						710						715				720	
179	gat	ggt	gta	gca	gaa	aga	agt	ggg	gga	cta	tta	cct	gga	gac	cgc	ctg	2325
180	Asp	Gly	Val	Ala	Glu	Arg	Ser	Gly	Gly	Leu	Leu	Pro	Gly	Asp	Arg	Leu	
181				725						730				735			
182	gtc	tca	gtc	aat	gaa	tac	tgt	ttg	gac	aac	acc	tca	ctt	gct	gaa	gct	2373
183	Val	Ser	Val	Asn	Glu	Tyr	Cys	Leu	Asp	Asn	Thr	Ser	Leu	Ala	Glu	Ala	
184				740						745				750			
185	gtg	gaa	ata	ttg	aaa	gct	gtg	cca	cca	ggc	cta	gta	cac	ctt	ggc	atc	2421
186	Val	Glu	Ile	Leu	Lys	Ala	Val	Pro	Pro	Gly	Leu	Val	His	Leu	Gly	Ile	
187				755						760				765			
188	tgt	aag	cct	ttg	gtg	gaa	gat	aat	gaa	gaa	gaa	agt	tgt	tat	att	tta	2469
189	Cys	Lys	Pro	Leu	Val	Glu	Asp	Asn	Glu	Glu	Glu	Ser	Cys	Tyr	Ile	Leu	
190						775						780				785	
191	cat	tca	agc	agt	aat	gaa	gac	aag	act	gaa	ttt	tca	gga	aca	att	cat	2517
192	His	Ser	Ser	Ser	Asn	Glu	Asp	Lys	Thr	Glu	Phe	Ser	Gly	Thr	Ile	His	

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/998,425

DATE: 02/08/2002

TIME: 11:57:10

Input Set : N:\Crf3\RULE60\09998425.raw

Output Set: N:\CRF3\02082002\I998425.raw

193				790				795				800					
194	gat	ata	aat	tca	tct	tta	ata	ctc	gaa	gca	ccc	aag	gga	ttt	aga	gat	2565
195	Asp	Ile	Asn	Ser	Ser	Leu	Ile	Leu	Glu	Ala	Pro	Lys	Gly	Phe	Arg	Asp	
196				805				810					815				
197	gaa	cca	tat	ttt	aaa	gaa	gaa	ctt	gtg	gat	gaa	cca	ttt	cta	gat	ctg	2613
198	Glu	Pro	Tyr	Phe	Lys	Glu	Glu	Leu	Val	Asp	Glu	Pro	Phe	Leu	Asp	Leu	
199				820				825					830				
200	gga	aag	tct	ttc	cat	tcc	caa	aaa	gag	ata	gag	caa	agc	aag	gag		2661
201	Gly	Lys	Ser	Phe	His	Ser	Gln	Gln	Lys	Glu	Ile	Glu	Gln	Ser	Lys	Glu	
202				835				840					845				
203	gcc	tggt	gag	atg	cat	gaa	ttt	ctg	act	cct	aga	ttg	cag	gaa	atg	gat	2709
204	Ala	Trp	Glu	Met	His	Glu	Phe	Leu	Thr	Pro	Arg	Leu	Gln	Glu	Met	Asp	
205				850				855					860			865	
206	gaa	gaa	aga	gaa	atg	ctt	gtt	gat	gaa	gaa	tat	gag	tta	tat	caa	gat	2757
207	Glu	Glu	Arg	Glu	Met	Leu	Val	Asp	Glu	Glu	Tyr	Glu	Leu	Tyr	Gln	Asp	
208				870				875					880				
209	ccc	tca	cca	tcc	atg	gag	ttg	tat	ccc	ttg	tcg	cac	att	caa	gag	gcc	2805
210	Pro	Ser	Pro	Ser	Met	Glu	Leu	Tyr	Pro	Leu	Ser	His	Ile	Gln	Glu	Ala	
211				885				890					895				
212	act	cct	gtg	ccc	tct	gtg	aat	gaa	ctt	cac	ttt	ggt	aca	cag	tggt	ttg	2853
213	Thr	Pro	Val	Pro	Ser	Val	Asn	Glu	Leu	His	Phe	Gly	Thr	Gln	Trp	Leu	
214				900				905					910				
215	cat	gat	aat	gaa	cca	tcc	gag	tct	caa	gag	gca	aga	acc	ggg	agg	act	2901
216	His	Asp	Asn	Glu	Pro	Ser	Glu	Ser	Gln	Glu	Ala	Arg	Thr	Gly	Arg	Thr	
217				915				920					925				
218	gtc	tat	tcc	cag	gag	gca	cag	ccg	tat	ggc	tat	tgct	cct	gaa	aat	gtg	2949
219	Val	Tyr	Ser	Gln	Glu	Ala	Gln	Pro	Tyr	Gly	Tyr	Cys	Pro	Glu	Asn	Val	
220				930				935					940			945	
221	atg	aaa	gaa	aat	ttt	gtc	atg	gag	tcc	cta	cca	tct	gta	cca	tca	act	2997
222	Met	Lys	Glu	Asn	Phe	Val	Met	Glu	Ser	Leu	Pro	Ser	Val	Pro	Ser	Thr	
223				950				955					960				
224	gaa	gga	aac	agt	caa	caa	ggc	aga	ttt	gac	gac	ctg	gaa	aat	ctt	aat	3045
225	Glu	Gly	Asn	Ser	Gln	Gln	Gly	Arg	Phe	Asp	Asp	Leu	Glu	Asn	Leu	Asn	
226				965				970					975				
227	tca	tta	gca	aaa	act	agt	ctg	gat	tta	ggc	atg	atc	ccg	aat	gat	gtc	3093
228	Ser	Leu	Ala	Lys	Thr	Ser	Leu	Asp	Leu	Gly	Met	Ile	Pro	Asn	Asp	Val	
229				980				985					990				
230	caa	ggt	cct	agc	ttg	ctc	att	gac	ctt	cct	gtt	gtg	gct	caa	agg	agg	3141
231	Gln	Gly	Pro	Ser	Leu	Leu	Ile	Asp	Leu	Pro	Val	Val	Ala	Gln	Arg	Arg	
232				995			1000					1005					
233	gag	caa	gaa	gat	ttg	cct	tta	tat	caa	cac	caa	gcg	aca	cga	gtt	att	3189
234	Glu	Gln	Glu	Asp	Leu	Pro	Leu	Tyr	Gln	His	Gln	Ala	Thr	Arg	Val	Ile	
235				1010			1015					1020			1025		
236	tcc	aag	gcc	tca	gca	tac	aca	gga	atg	ttg	tct	tct	aga	tat	gcc	act	3237
237	Ser	Lys	Ala	Ser	Ala	Tyr	Thr	Gly	Met	Leu	Ser	Ser	Arg	Tyr	Ala	Thr	
238				1030				1035					1040				
239	gat	aca	tgt	gag	tta	cct	gag	aga	gaa	gaa	ggc	gaa	gga	gaa	gaa	act	3285
240	Asp	Thr	Cys	Glu	Leu	Pro	Glu	Arg	Glu	Glu	Gly	Glu	Gly	Glu	Glu	Thr	
241				1045				1050					1055				

## VERIFICATION SUMMARY

DATE: 02/08/2002

PATENT APPLICATION: US/09/998,425

TIME: 11:57:11

Input Set : N:\Crf3\RULE60\09998425.raw

Output Set: N:\CRF3\02082002\I998425.raw

L:9 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD

L:11 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD

L:29 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1